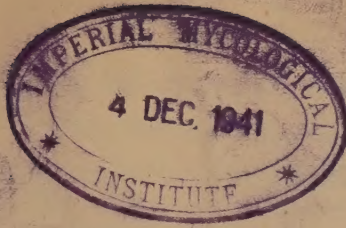


S.P. 24/1941.



**REPORT OF THE
DEPARTMENT OF AGRICULTURE
FOR THE YEAR 1940.**

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BRITISH HONDURAS

REPORT OF THE DEPARTMENT OF AGRICULTURE FOR THE YEAR 1940.

SECTION I.

GENERAL REVIEW OF CROPS INCLUDING EXPORTS.

WEATHER CONDITIONS.

1. The rainfall for 1940 was probably above average for most of the Colony. The year was much wetter than either 1938 or 1939. During the early part of the year a succession of cool "northers" tempered the climate. The dry season continued well into May. The rains were late in arriving but once the wet weather had set in the shortage of the rainfall in the earlier part of the year was more than made good.

GENERAL SITUATION.

2. The exports of agricultural produce have declined by approximately 15% in value from \$340,650 to \$287,629. Nearly all this decline is represented by reductions in the export of bananas, citrus and sugar. On the other hand the production of foodstuffs has increased, and, if the figures of imports of foodstuffs can be taken as a direct reflexion of the amount required to supplement local production, then the decline in exports is more than offset by the increase in the production of local foodstuffs. However a certain amount of the reduction of imports is due to restrictions imposed from within the Colony and to interruption of supplies from abroad. Table No. 2 shows the amount and value of the agricultural exports for 1940, and Table No. 1 shows the value of foodstuffs imported, most of which could be replaced to a large extent by local produce.

CONDITIONS OF THE CHIEF AGRICULTURAL CROPS.

3. *Bananas.* The export of this crop has declined still further until the number of bunches exported is considerably under the half million mark. The main decline appears to have occurred in the Toledo District and along the road from Belize to Maskall's. On the other hand the output from Stann Creek District has shown a 40% increase. In Toledo and Stann Creek Districts Panama Disease is still the greatest hindrance to successful production. The Sigatoka Leaf-Spot Disease is common to all the banana growing areas and the general situation remains much the same. A few of the larger growers along the Belize River are spraying against this disease.

4. *Coconuts and Copra.* The export of coconuts continues to decline although the average price has increased considerably. The decline in trade over a number of years has doubtlessly discouraged producers, and this coupled with low crops due to two successive dry years had placed the producers in the position of being unable to meet fully a brisk demand for nuts for the Christmas trade in the United States. A large reduction in the export of copra has also occurred. On the other hand there is now a steady if small demand from the soap factories in Belize for copra.

5. *Citrus.* No new areas have been planted to citrus during the year. A considerable number of young orchards are now coming into bearing. Although there has been a greatly increased production of grapefruit, the export of fresh fruit was slightly down compared with that of 1939. During the early part of the year uncertainty as to markets and shipping existed and this affected exports unfavourably. In the autumn prospects became brighter when arrangements were completed with the Ministry of Food to purchase the whole of the grapefruit crop, but lack of shipping facilities cut short the arrangement.

6. The British Honduras Citrus Association has been investigating the possibilities of sidelines and has increased its production of canned grapefruit, citrus juices and citrus peel. The canning and juicing plant has been moved to a more suitable site and has been enlarged. Canned grapefruit and grapefruit juice were again exported in small quantities.

7. *Cassava.* The Starch Factory in Stann Creek Valley operated for two short periods in May and September. 530 tons of roots were ground and approximately 70 tons of cassava starch was manufactured. The whole situation in the cassava industry is still unsatisfactory and has not materially altered during the past year.

8. *Sugar Cane.* Owing to the exceptionally dry weather occurring in 1938 and 1939 the Corozal Sugar Factory has had its shortest crop since 1937. Only 8,652 tons of cane were delivered by the contractors to the factory. The output of sugar was 1,002 tons. The extraction figure of one ton of sugar from 8.65 tons of cane was very good, being almost the same as for 1939. Very different weather conditions occurred in 1940 and an excellent crop is expected for the 1941 season.

9. *Rice.* The output of rice padi as gauged by the purchases through the Government rice mills has more than doubled during the year. The production, which has shown the greatest increase in Toledo District, is a direct reflexion of the work carried out in that District by the Department of Agriculture since 1934. The increase in production is almost entirely due to increased use of the British Guiana variety No. 79. Attempts are being made to introduce this variety into other rice growing areas and doubtless increased production will occur in these areas as soon as local prejudices have been overcome.

10. The weather was very favourable for rice production. The Colony's total production of rice is still less than 10% of its annual consumption. Exports and imports are rigidly controlled and there is in effect a guaranteed market for all the rice which can be grown in the Colony.

11. *Maize.* Good crops of maize were produced throughout the Colony. The production is estimated to be larger than in 1939 but, as the Board of Agriculture is now offering a considerably reduced price for corn, producers are holding on to it. The Board of Agriculture was able to export 100 tons to Jamaica, where it was very favourably commented upon. The Colony is entirely self-supporting in corn and provided it can reduce its production costs it should be possible to build up an export trade.

12. *Ground Provisions and Pulse Crops.* There appears to have been a small increase in the production of ground provisions for home consumption. The prevalence of the Wee-wee or Parasol ants and the shortage of planting material excludes the possibility of any rapid increase in the production of ground provisions. There has been a definite increase in the production of pulses, particularly of red kidney beans. Favourable weather conditions and the guaranteeing of a minimum price for beans has encouraged planters to increase their areas under this crop.

13. *Vegetables.* The 1939-40 vegetable season was highly satisfactory. Cool weather continued late into March and more satisfactory marketing arrangements have given encouraging results. A demonstration vegetable garden in Belize run by the War Efforts Committee has aroused interest and serious attempts are being made by the town dwellers to grow a few vegetables within their "yards".

LIVESTOCK.

14. Interest in livestock has been considerably stimulated by Government action in placing an embargo on cattle imported for slaughter. More attention is being paid to fencing pastures into manageable-sized paddocks and to rotational grazing. The planting of improved grasses, such as, Guinea Grass, has also been attempted. Milk production is on the increase, but it still has to overcome the town-dwellers' prejudice against milk other than that out of a tin.

15. The production of goats and pigs is on the increase and the latter has received additional encouragement by the Department's supplying pedigree stud boars at six centres of the Colony. Certain districts, particularly Corozal and Stann Creek, also ship considerable quantities of poultry and eggs to Belize. Town-dwellers are showing an increased interest in poultry and numerous yards have been converted into poultry runs with profit to the owners.

PESTS AND DISEASES.

16. *Wee-wee or Parasol Ants.* This is by far the most important economic insect pest of the Colony. There are many measures which will give temporary control. Efficient control can be maintained by means of pumping one of the cyanide compounds into the nests. But repeated treatment is costly and often beyond the means of small cultivators. Until a cheap and efficient control is obtained the pest will remain one of the most serious obstacles to the increased production of ground provisions, vegetable and fruit crops.

17. *Animal Diseases.* There was no reported incidence of any serious animal disease during the year.

SECTION II.

WORK OF THE DEPARTMENT OF AGRICULTURE

NORTHERN DISTRICT.

18. *Sugar Cane*. Multiplication plots of the more important varieties, P.O.J.2883, D11/28, B.3127, B.3138, B.3179, B.3013, and S.C.12/4 are being continued. P.O.J.2883 has been distributed to local rancheros with good results. Field trials on varieties, on times of planting and on the effects of the application of the three elements, N.P.K., were laid down during 1940.

19. *Maize*. The main work has been confined to spacing trials, the results of which have shown no significant difference, and to seed selection of local types.

20. *Ground Provisions*. Demonstration plots of the more important yam and cassava varieties were laid down and a variety trial of seven different kinds of sweet potatoes was carried out. Two varieties, Red Nut from Barbados and Puerto Rico Yellow Yam from Puerto Rico, gave significantly heavier yields than the other varieties.

21. *Vegetables*. Data collected over a period of three years have revealed some interesting points in regard to rates of maturity, crop yields and times of planting. It has been found that the earliest sowings take the longest time to mature. The period of growth becomes successively shorter as plantings continue from August to February. Yields appear to be positively correlated with the length of maturity.

22. *Legumes*. Work on legumes is continuing. Five varieties of Soya bean introduced through Jamaica are being multiplied out for investigation purposes.

23. *Tobacco*. Several varieties of Virginia tobacco are being tested out in field trials and flue curing experiments are under way, but it is too early yet to draw any definite conclusions.

24. *Storage Trials*. Trials were commenced on the storage of certain vegetables, such as, Irish potatoes, and onions. Results to-date indicate that under Corozal conditions it should be possible to store in a cool airy room Irish potatoes and onions in open crates for four or five months. Preliminary trials on waxing fresh vegetables and fruit have been commenced to attempt to place these products on the Belize market in a more attractive condition.

25. *Orange Walk Sub-station*. This station is mainly devoted to the investigations into tobacco and the multiplication and distribution of food crops.

26. *Extension Work*. The main aim during the war has been in the Northern District to encourage an increased production of, and consumption of, locally produced foodstuffs. To this end meetings were held in Corozal and in some of the larger villages, and talks were given by members of the Department on "The reasons for increased production and consumption", "The home garden", "Small livestock", "The production of vegetables for profit", etc. In conjunction with these talks instructions and demonstrations were given on eleven recognised school gardens. Demonstration plots were commenced on the "milperos" own land at Patchakan in addition to the plot already established at Santa Clara.

27. Advice was given to livestock owners particularly on the feeding and maintenance of livestock during the long dry season. Good use was also made of the Berkshire boars at stud at Corozal and Orange Walk.

STANN CREEK DISTRICT.

28. *Cassava*. Field trials on varieties and methods of cultivation are being continued. Manurial trials have been planned and are now being laid down. Of the thirty varieties maintained on the Agricultural Station some ten varieties are included in these trials, a few of which appear promising for local conditions.

29. The scheme for assisting growers by means of money advances to produce cassava roots for the local Starch Factory has been a complete failure.

30. *Citrus*. On the Department's farm work on this crop has been reduced to a minimum. The essential long term trials on rootstocks and manurial and cultural treatments are being maintained.

31. *Food Crops*. Multiplication and distribution of the more commonly desired food crops has continued. Every encouragement has been given to the local planters

to grow more of, and a greater variety of, food crops. Varietal trials of red kidney beans and sweet potatoes have been commenced. Manurial trials have been planned to be put into operation in 1941.

32. *Animal Husbandry.* Work on fodder plants, the training of work-oxen and the maintenance of a small herd of cross-bred Jerseys have been continued.

33. *Extension Work.* The establishment of two small demonstration farms in the Stann Creek Valley was completed. The object of both is to introduce a system of mixed farming; the one in the Carib Reserve is primarily devoted to a cropping system which will include the more important Carib crops to attempt to make the Carib as self-sufficient as possible; the other at the Industrial School, Pomona, although run on similar lines, has among its objectives that of supplying the school with food and the inmates with practical instruction.

TOLEDO DISTRICT.

34. *The Rice Station.* Field trials on varieties and on methods of establishment were continued. A manurial trial on the effects of the elements, N.P.K., was commenced, and has given useful indications of the magnitude of response which may be expected with dressings of single elements on the rice plant on the particular soils of the Rice Station. Progeny rows and multiplication plots of all varieties collected on the Station were maintained.

35. *The Rice Mill, Punta Gorda.* Milling was carried out at intervals during the first eight months of 1940. 216,454 lb. of padi were milled and 123,687 lb. rice produced. This is equivalent to a recovery of 57.1%. Thus from 100 lb. padi milled the average recovery of rice was as follows:

Clean Rice	57.1 lb.
Quarter grains (broken rice)	6.9 lb.
Bran (pericarp)	6.7 lb.
Husks and dirt	27.3 lb.

The recovery of rice has improved over the previous year. This is probably due to a more rigid control being exercised over the purchase of sound padi and the rejection of immature and wet produce. Losses from shrinkage during the storage of padi purchased in 1939 amounted to 8,968 lb. of 5.1% of the total stored. During 1940 355,018 lb. padi was purchased. It was necessary to find additional temporary storage accommodation.

36. *Extension Work.* Rice demonstration plots were maintained in the more important rice reserves. A new system of permits to occupy land within the rice reserves was instituted and a total of 71 permits were issued up to the end of 1940. Loans to selected rice growers within these reserves were continued. \$661.50 was lent to 35 growers and \$472.50 was repaid by the end of the year. Some 12,500 lb. seed padi was distributed and 92,000 lb. padi was threshed by the Department's mechanical thresher for the owners at a charge of 15c per 100 lb.

TOLEDO INDIAN RESERVATIONS.

37. *Improvement of Village Pigs.* In five villages of the Indian Reservation projects were planned to supply each village a half-bred Berkshire boar as a gift to the people. The scheme has been a complete success in the village of San Antonio, where after a period of twelve months a very noticeable improvement has taken place in the size and quality of the pigs. In the villages of San Pedro and Inchasonez the progress has not been so marked but is satisfactory.

BELIZE DISTRICT.

38. *The Belize Rice Mills and Drying Kilns.* The mills had a full season and for certain periods labour had to be employed on night shifts. Storage accommodation was adequate and losses were reduced to a minimum. The only outstanding loss due to deterioration in storage was 16,083 lb. of black beans carried over from 1939, which had to be sold off cheaply as a bean meal for pig feed.

39. The Board of Agriculture was able to sell 100 tons of kiln-dried corn from the Belize Mills to Jamaica. A great increase in the amount of corn meal and corn grits milled has taken place. Only 567 lb. were milled in 1939 and in 1940 this rose to 22,720 lb. Practically all the corn handled by the Board passes through the Belize Mills. Storage losses amount to 14,680 lb. or 2.5%.

40. *Rice Milling Belize.* 42,107 lb. padi was milled and 27,101 lb. of clean rice was produced. This is equivalent to a recovery of 64.4% by weight. From 100 lb. of padi the average recovery of rice from the Belize Mill was as follows:

Clean Rice	64.4 lb.
Quarter Grains (broken rice)	3.6 lb.
Bran (including husk)	27.3 lb.
Waste and dirt	1.3 lb.

41. *Extension Work.* Periodic visits were made to eleven rural and four urban school gardens, where talks and instructions on various phases of gardening were given. Periodic visits were made to the settlements on the Belize River below Big Falls, to the settlers along Maskall's road and Northern River and up the Sibun River. Talks and advice mainly on food production were given. Lands held on the Location Ticket system were inspected to make certain that settlers were fulfilling the conditions before obtaining title to the land.

EL CAYO DISTRICT.

42. The main lines of work have included the preparation of a survey of the land usage of the district, and of the present agricultural system, the establishment of demonstration plots among the milperos in order to improve the present Indian Milpa system, and the encouragement of the growing of increased amounts of, and alternative kinds of, food crops by all the agricultural community. In the case of red kidney beans successful cooperation was arranged between the storekeepers of Cayo and Benque Viejo and the peasant growers for the supply of seed and the local production and consumption of the produce.

J. F. WARD,

Agricultural Officer.

Table No. 1.

IMPORTS OF FOODSTUFFS, 1940.

COMMODITY	QUANTITY	VALUE
Cattle (No.)	151	\$ 4,229
Butter (Cwt.)	549	7,702
Butter Substitutes (Cwt.)	1,811	53
Cheese (Cwt.)	824½	1,991
Rice (Cwt.)	17,943	44,766
Flour, Wheaten (bags of 196 lb.)	33,014½	140,333
Beans and Peas (Cwt.)	6,149	34,147
Farinaceous Preparations (Cwt.)	996½	9,419
Lards and Substitutes (Cwt.)	3,558½	32,022
Beef in barrels (Cwt.)	938½	10,861
Pork, various (in barrels)	3,131½	33,186
Milk, Condensed and Unsweetened (Cwt.)	13,138½	137,947
Onions (Cwt.)	2,073½	6,262
Irish Potatoes (Cwt.)	3,084½	8,344
Eggs (doz.)	3,401	748
Pigs	270	1,529
TOTAL		\$521,939

Table No. 2.
AGRICULTURAL PRODUCE: EXPORTS 1940.

PRODUCE	Destination	Quantity	Value \$	% Value of all Agric. Products	% Value of all Products 1940
Coconuts (No.)	U.S.A.	2,551,259	42,821	—	—
	Canada	100,250	1,012	—	—
	Mexico	1,000	6	—	—
	Cayman Is.	9,000	90	—	—
	Cuba	20,000	200	—	—
	Total	2,681,509	44,129	15.34	2.73
Copra (lb.)	Mexico	186,814	3,599	—	—
	Total	186,814	3,599	1.25	.22
Bananas (bunches)	U.S.A.	437,432	153,937	—	—
	Total	437,432	153,937	53.50	9.50
Plantains (No.)	U.S.A.	55,000	459	—	—
	Cayman Is.	3,500	32	—	—
	Mexico	700	3	—	—
	Total	59,200	494	0.18	.03
Grapefruit (Fresh) (Cwt.) ..	U.K.	27,136½	47,237	—	—
	Canada	11,472	20,077	—	—
	Bermuda	876	1,531	—	—
	Mexico	407	161	—	—
	Total	39,891½	69,006	24.00	4.26
Grapefruit Juice (Cwt.) ..	United Kingdom	274	556	—	—
	Total	274	556	0.19	.03
Grapefruit Canned (Cwt.) ..	United Kingdom	1,002	4,414	—	—
	Total	1,002	4,414	1.53	.27
Oranges (Cwt.)	Canada	16	29	—	—
	Bermuda	276	483	—	—
	Mexico	1,009	609	—	—
	Total	1,391	1,121	0.39	.08
Tangerines (Cwt.)	Mexico	14	9	—	—
	Total	14	9	—	—
Lemon (Cwt.)	Mexico	6	2	—	—
	Total	6	2	—	—
Other Agricultural Products :					
Arrowroot, Macaroni, Starch and Sago (lb.) ..		145,173	3,629	1.28	.22
Leather (lb.) ..		4,492	758	0.26	.05
Poultry (No.) ..		2,953	1,148	0.40	.07
Tomatoes (lb.) ..		—	93	0.03	—
Eggs (Doz.) ..		2,130½	515	0.18	.03
Avocados (No.) ..		23,750	144	0.05	.01
Corn (Cwt.) ..		2,000	3,673	1.28	.23
Cornflour (lb.) ..		730	70	0.02	—
Cabbage (Cwt.) ..		18	90	0.03	—
Fresh Vegetables (lb.) ..		551	43	0.01	—
Mangoes (No.) ..		84,950	199	0.07	.01
TOTAL AGRICULTURAL PRODUCE		—	237,629	100.0	17.75
Total Agricultural Produce		—	\$287,629	—	17.75%
Total Forest Produce		—	1,328,878	—	82.00%
Total Marine Produce		—	4,136	—	.25%
Miscellaneous		—	37	—	—
			\$1,620,680		100.00%